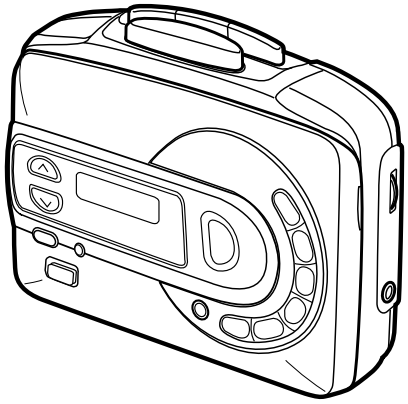
aiwa
SERVICE

HS-TX394 YU,YL,YZ
HS-TX396 YH,YL,YZ,YJ
HS-TX399 YL



SERVICE MANUAL

STEREO RADIO
CASSETTE PLAYER

BASIC TAPE MECHANISM : 4ZM-2
(P5NC,P5NF)

aiwa

S/M Code No. 09-991-404-8R1

REVISION

SPECIFICATIONS

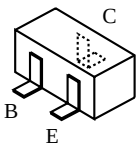
Frequency range:	For using in North and South America **AM:** 530 – 1,710 kHz (10 kHz step) **FM1,FM2:** 87.5 – 108.1 MHz (200 kHz step) For using in Europe and other countries **AM:** 531 – 1,602 kHz (9 kHz step) **FM1,FM2:** 87.5 – 108 MHz (50 kHz step) For using in Japan <YU,YL> **AM:** 531 – 1,629 kHz (9 kHz step) **FM1,FM2:** 76 – 108 MHz (100 kHz step in 76 – 90 MHz, 50 kHz step in 90 – 108 MHz)
Maximum output:	4 mW + 4 mW (EIAJ/32Ω)<YZ> 15 mW + 15 mW (EIAJ/32Ω)<YU,YL,YH>
Power source:	DC 3V using two R6 (size AA) dry cell batteries AC house current using an optional AC adaptor AIWA AC – D302 <YH>
Battery life (EIAJ 1 mW output):	
	Approx. 7 hours using R6P (size AA) manganese batteries Approx. 22 hours using LR6 (size AA) alkaline batteries
Maximum dimensions:	116.7 (W) x 91.5 (H) x 35 (D) mm ($4^5/_8$ x $3^3/_4$ x $1^5/_8$ in.)
Weight	Approx.140g (4.9 oz) (excluding batteries)

- Design and specifications are subject to change without notice.

ACCESSORIES / PACKAGE LIST

REF.NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-HRC-904-010		IB,Y(DGI)-INTX396<396YZ>
1	8Z-HRC-911-010		IB,Y(DGI)-INTX394<394YZ>
1	8Z-HRC-903-010		IB,Y(ESF)-TX396 IN<396YZ>
1	8Z-HRC-910-010		IB,Y(ESF)-INTX394<394YZ>
1	8Z-HRC-907-010		IB,Y(POHCZ)-INTX396<396YZ>
1	8Z-HRC-912-010		IB,Y(POHCZ)-INTX394<394YZ>
1	8Z-HRC-918-010		IB,YJ(ECC)-TX396 IN<YJ>
1	8Z-HRC-919-010		IB,YH(ECC)-TX396C<YH>
1	8Z-HRC-921-010		IB,YL-TX399-CCE<399YL>
1	8Z-HRC-920-010		IB,YL(ESP)-TX394 IN<394YL>
1	8Z-HRC-906-010		IB,YL(ESP)-TX396C<[S]396YL>
1	8Z-HRC-909-010		IB,YL(ESP)-IN<[S]396YL1,[S]396YLB>
1	8Z-HRC-908-010		IB,YU(ESF)-IN<YU>
2	84-447-019-310		CLIP,BELT
3	87-B30-150-110		HEADPHONE,HP-M006A(F)<YH,YZ>
3	87-B30-124-110		HEADPHONE,HP-M028<YU,[S]396YLB,[S]396YL>
3	87-B30-145-110		HEADPHONE,HP-M029(T)<394YL,[S]396YL1,399YL>

TRANSISTOR ILLUSTRATION



RN2411	2SA1362
RN2407	2SC2714
RN1411	2SC2712
RN1407	KTA1298Y
DTC144EK	

ELECTRICAL MAIN PARTS LIST

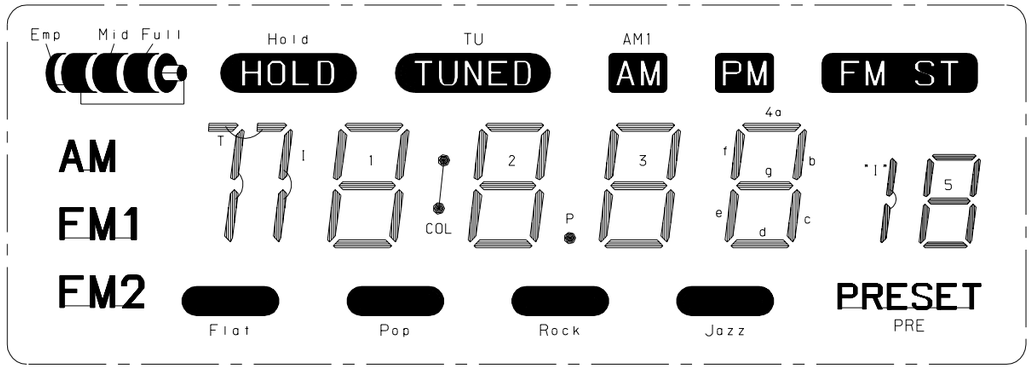
REF.NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-235-080		C-IC,LAG668FTF
	87-A20-851-040		C-IC,TA2111F
	87-A21-049-010		C-IC,LC72343G-9482<YH,YJ,YZ>
	87-A21-149-010		C-IC,TC9322FB-501<YU,YL>
	87-001-145-080		IC,TA8126F
TRANSISTOR			
	89-113-625-080		TR,2SA1362GR(120MHZ,0.
	87-026-210-080		CHIP-TR,DTC144EK
	87-026-264-080		C-TR,RN1411
	87-026-262-080		C-TR,RN1407
	89-327-143-080		TR,2SC2714 (0.1W)
	87-026-268-080		C-TR,RN2411
	87-A30-159-080		C-TR,KTA1298Y
	89-327-125-080		CHIP TR,2SC2712GR
DIODE			
	87-001-142-080		DIODE,1SS294 (100MA)
	87-020-027-080		CHIP-DIODE 1SS184
	87-A40-260-080		C-ZENER,UDZ2.0B<YH,YJ,YZ>
	87-026-267-080		LIGHT EMITTING DIODE,RN2407
MAIN C.B			
BPF101	87-A90-601-010		FLTR,BPF GFWB7
C1	87-010-179-080		CAP,CHIP S B1200P
C2	87-010-179-080		CAP,CHIP S B1200P
C3	87-010-501-040		E/CAP GAS 47-4
C4	87-010-820-040		CAP,E 47-4 (MJ)
C5	87-016-369-080		C-CAP,S 0.033-25 KB GRM
C6	87-016-369-080		C-CAP,S 0.033-25 KB GRM
C7	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C8	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C9	87-010-196-080		CHIP CAPACITOR,0.1-25
C10	87-010-822-040		CAP,E 220-4 (MJ)
C11	87-010-822-040		CAP,E 220-4 (MJ)
C12	87-010-178-080		CHIP CAP 1000P
C13	87-A11-235-080		C-CAP,TN 3.3-4 M AM004R
C14	87-010-503-040		CAP,E 220-4 GAS
C15	87-A11-187-080		C-CAP,TN 10-4 M AM004R
C16	87-010-196-080		CHIP CAPACITOR,0.1-25
C17	82-HJ5-612-010		CAP,E 470-4
C18	87-010-177-080		C-CAP,S 820P-50 SL
C19	87-010-177-080		C-CAP,S 820P-50 SL
C20	87-010-178-080		CHIP CAP 1000P
C21	87-010-178-080		CHIP CAP 1000P
C22	87-A11-187-080		C-CAP,TN 10-4 M AM004R
C23	87-010-805-080		CAP, S 1-16
C24	87-A11-187-080		C-CAP,TN 10-4 M AM004R
C25	87-010-805-080		CAP, S 1-16
C101	87-010-194-080		CAP, CHIP 0.047
C102	87-010-197-080		CAP, CHIP 0.01 DM
C103	87-010-196-080		CHIP CAPACITOR,0.1-25
C104	87-010-320-080		C-CAP,S 68P-50 CH
C105	87-012-140-080		CAP 470P
C106	87-012-153-080		C-CAP,S 120P-50 CH
C107	87-010-145-080		C-CAP,S 1P-50 CH
C108	87-012-155-080		C-CAP 180P-50CH
C110	87-010-154-080		CAP CHIP 10P
C111	87-010-197-080		CAP, CHIP 0.01 DM<YZ>
C111	87-010-805-080		CAP,S 1-16<YU,YL,YH,YJ>
C112	87-010-312-080		C-CAP,S 15P-50 CH
C113	87-010-154-080		CAP CHIP 10P
C114	87-010-197-080		CAP, CHIP 0.01 DM
C115	87-010-146-080		C-CAP,S 2P-50 C CH<YU,YL>
C115	87-010-145-080		C-CAP,S 1P-50 CH<YL,YH,YJ,YZ>
C117	87-010-196-080		CHIP CAPACITOR,0.1-25
C118	87-010-805-080		CAP, S 1-16
C119	87-010-197-080		CAP, CHIP 0.01 DM
C120	87-010-194-080		C-CAP,S 0.047-25 ZF<YU,YL>
C120	87-010-197-080		CAP, CHIP 0.01 DM<YZ>
C121	87-012-157-080		C-CAP,S 330P-50 CH
C122	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C123	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C124	87-010-805-080		CAP, S 1-16
C125	87-010-196-080		CHIP CAPACITOR,0.1-25
C126	87-010-196-080		CHIP CAPACITOR,0.1-25
C127	87-010-419-040		CAP,E 4.7-16 5L
C128	87-010-452-080		CAPACITOR,1-16
C129	87-010-426-080		C-CAP,S 0.012-25 B
C130	87-010-426-080		C-CAP,S 0.012-25 B
C131	87-010-426-080		C-CAP,S 0.012-25 KB
C132	87-010-426-080		C-CAP,S 0.012-25 KB
C133	87-010-822-040		CAP,E 220-4 (MJ)
C134	87-010-822-040		CAP,E 220-4 (MJ)
C136	87-010-178-080		CHIP CAP 1000P
C138	87-016-461-080		C-CAP,S 0.47-16F
C140	87-010-178-080		C-CAP,S 1000P-50 KB<YH,YJ,YZ>
C140	87-012-154-080		C-CAP,S 150P-50 J CH<YU,YL>
C141	87-010-178-080		C-CAP,S 1000P-50 KB<YH,YJ,YZ>
C142	87-010-178-080		C-CAP,S 1000P-50 KB
C143	87-010-178-080		C-CAP,S 1000P-50 KB<YH,YJ,YZ>
C145	87-010-178-080		C-CAP,S 1000P-50 KB<YU,YL>
C146	87-010-197-080		C-CAP,S 0.01-25 KB<YU,YL>
C150	87-010-178-080		C-CAP,S 1000P-50 KB<YU,YL>
C150	87-010-321-080		C-CAP,S 82P-50 J CH<YU,YL>
C401	87-010-196-080		CHIP CAPACITOR,0.1-25
C402	87-010-196-080		CHIP CAPACITOR,0.1-25
C403	87-010-805-080		CAP, S 1-16
C404	87-010-805-080		CAP, S 1-16
C405	87-010-499-040		CAP,E 22-6.3 GAS
CF101	87-A91-162-010		FLTR,PFS450A7
CF104	87-A91-093-010		FLTR,KIT KSKM2CD-AO-003
D101	87-A40-462-040		C-VARI-CAP,SVC347(S)
D102	87-A40-484-070		C-VARI-CAP,SVC203CP
D103	87-A40-484-070		C-VARI-CAP,SVC203CP
J1	85-HRL-623-010		JACK,3.5 ST BLK
J2	87-A60-849-010		JACK,DC DIA 2.75 BLK<YH>
L1	87-A50-038-010		COIL,RF CHOKE
L101	8Z-HRC-605-010		BAR-ANT,MW
L102	8Z-HRC-607-010		COIL,FM RF
L103	8Z-HRC-606-010		COIL,OSC FM
L104	87-003-226-080		MICRO INDUCTOR 100UJ
L105	87-A91-063-010		IFT,AM 450KHZ
R9	87-A00-330-080		RES,M/F 220-1/8W 3900PPM
SFR1	87-A91-057-040		C-SFR,3.3K B RHO3AXAN4X
SW1	87-A90-133-010		SW LEAF LSA1120JAU
TH1	87-026-256-090		THERMISTOR, HT-100
VC101	87-011-217-010		TRIMER,10P VCT35
VR1	87-A90-981-010		VR,RTRY 20KBX1
FRONT C.B			
C205	87-010-152-080		C-CAP,S 8P-50 CH<YH,YJ,YZ>
C206	87-010-152-080		C-CAP,S 8P-50 CH<YH,YJ,YZ>
C207	87-010-805-080		CAP, S 1-16<YH,YJ,YZ>
C209	87-010-197-080		CAP, CHIP 0.01 DM<YH,YJ,YZ>
C210	87-010-196-080		C-CAP,0.1-25<YH,YJ,YZ>
C211	87-012-141-080		C-CAP,0.22-16F<YH,YJ,YZ>
C212	87-010-196-080		C-CAP,0.1-25<YH,YJ,YZ>
C213	87-010-805-080		CAP, S 1-16<YH,YJ,YZ>
C214	87-010-178-080		CHIP CAP 1000P<YH,YJ,YZ>
C215	87-010-182-080		C-CAP,S 2200P-50 B<YH,YJ,YZ>
C216	87-010-805-080		CAP, S 1-16<YH,YJ,YZ>
C218	87-010-805-080		CAP, S 1-16<YH,YJ,YZ>
C251	87-010-180-080		C-CER 1500P
C252	87-010-805-080		CAP, S 1-16

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
C253	87-010-197-080		CAP, CHIP 0.01 DM
C254	87-010-452-080		CAPACITOR,1-16
C255	87-010-197-080		CAP, CHIP 0.01 DM
C256	87-010-150-080		C-CAP,S 6P-50 CH
C257	87-012-156-080		C-CAP,S 220P-50 CH
C258	87-010-805-080		CAP, S 1-16
C271	87-010-181-080		CAP,CHIP S 1800P<YU,YL>
C272	87-010-181-080		CAP,CHIP S 1800P<YU,YL>
C273	87-010-181-080		CAP,CHIP S 1800P<YU,YL>
C274	87-010-181-080		CAP,CHIP S 1800P<YU,YL>
C275	87-010-805-080		CAP, S 1-16<YU,YL>
C277	87-010-805-080		CAP, S 1-16<YU,YL>
C278	87-010-805-080		CAP, S 1-16<YU,YL>
C279	87-010-805-080		CAP, S 1-16<YU,YL>
C280	87-010-312-080		C-CAP,S 15P-50 CH<YU,YL>
C281	87-010-312-080		C-CAP,S 15P-50 CH<YU,YL>
C282	87-012-142-080		CAP, S 0.33-16<YU,YL>
C284	87-010-196-080		CHIP CAPACITOR,0.1-25<YU,YL>
C285	87-010-196-080		CHIP CAPACITOR,0.1-25<YU,YL>
C287	87-010-196-080		CHIP CAPACITOR,0.1-25<YU,YL>
C288	87-010-427-080		C-CAP,S 0.039-25 B<YU,YL>
L251	87-A50-396-040		C-COIL,D-D CONV CP-4LBM
LCD201	8Z-HRC-603-010		LCD,ASSY(BAND/TU) 19P<YH,YJ,YZ>
LCD201	88-HRC-610-010		LCD,HS ASSY(BAND/TU)<YU,YL>
R216	87-022-375-080		C-RES,S 680K-1/10W F<YH,YJ,YZ>
R217	87-022-374-080		C-RES,S 560K-1/10WF<YH,YJ,YZ>
R275	87-022-359-080		C-RES,S22K-1/10WF<YU,YL>
R276	87-022-359-080		C-RES,S22K-1/10WF<YU,YL>
R277	87-022-361-080		C-RES,S 47K-1/10W F<YU,YL>
SW213	87-036-304-080		C-SW,SL 1-1-2
TH201	87-A90-547-080		C-THMS,47K (5%)NTH 5G<YU,YL>
X201	87-A70-082-010		VIB,XTAL 75KHZ<YH>
X201	87-A70-173-010		VIB,XTAL 75KHZ DT-261<EXCEPT YH>
FLEX C.B			
	8Z-HRC-604-010		FF-CABLE, 17P

LCD DIAGRAM

LCD, HS ASSY (BAND/TU) <YU, YL>

GRID ASSIGNMENT

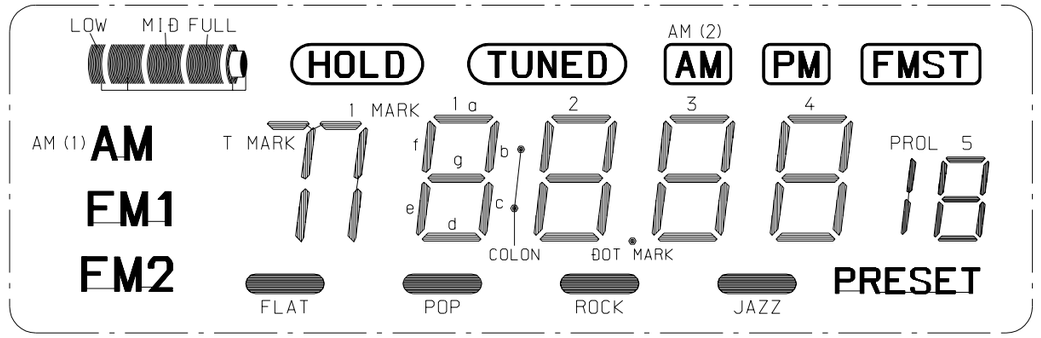


ANODE CONNECTION

No.	COM1	COM2	COM3
1	–	–	COM3
2	–	COM2	–
3	COM1	–	–
4	FM2	FM1	AM
5	Flat	Mid	Emp
6	I	T	Full
7	1e	1f	Hold
8	1d	1g	1a
9	Pop	1c	1b
10	COL	TU	AM1
11	2e	2f	2a
12	2d	2g	2b
13	Rock	2c	3f
14	P	3e	3g
15	3d	3c	3b
16	Jazz	4f	3a
17	4e	4g	4a
18	4d	4c	4b
19	PRE	5e	"I"
20	5d	5g	5f
21	5c	5b	5a
22	–	FM ST	PM

LCD, HS ASSY (BAND/TU) <YH, YJ, YZ>

GRID ASSIGNMENT



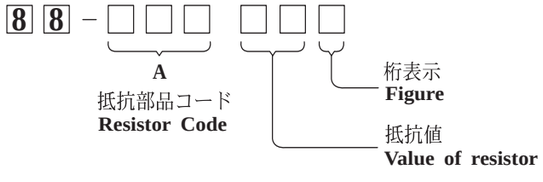
ANODE CONNECTION

NO.	COM1	COM2	COM3	COM4
1	COM1	–	–	–
2	–	COM2	–	–
3	–	–	COM3	–
4	–	–	–	COM4
5	LOW	AM (1)	FM1	FM2
6	MID	T MARK	1 MARK	FLAT
7	1a	1f	1g	1e
8	COLON	1b	1c	1d
9	FULL	2f	2e	POP
10	2a	2g	2d	–
11	HOLD	2b	2c	–
12	TUNED	3f	3e	DOT MARK
13	3a	3g	3d	ROCK
14	AM (2)	3b	3c	JAZZ
15	PM	4f	4e	–
16	4a	4g	4d	–
17	PROL	4b	4c	PRESET
18	5a	5f	5g	5e
19	FMST	5b	5c	5d

○チップ抵抗部品コード／**CHIP RESISTOR PART CODE**

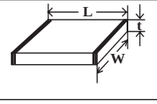
チップ抵抗部品コードの成り立ち

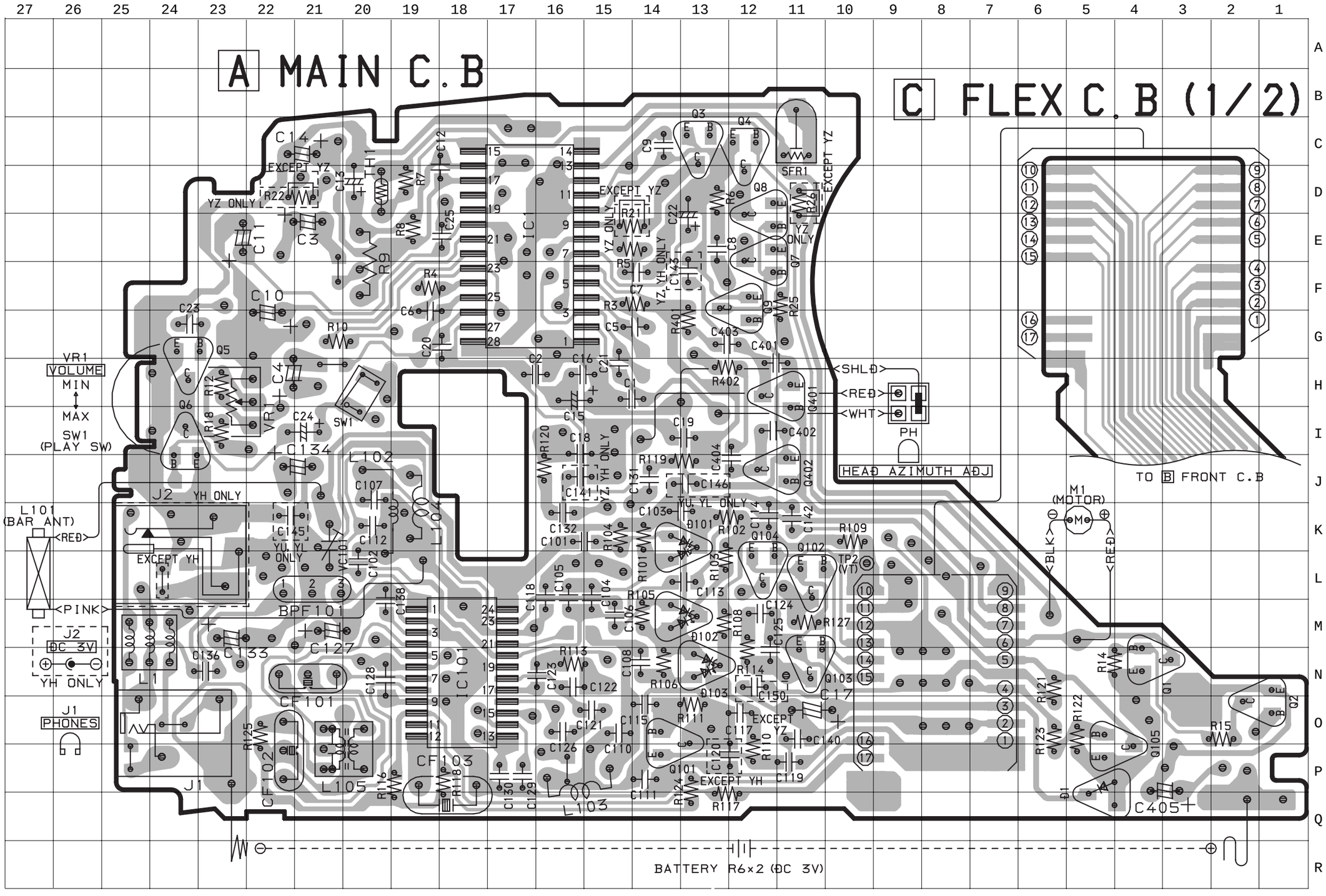
Chip Resistor Part Coding



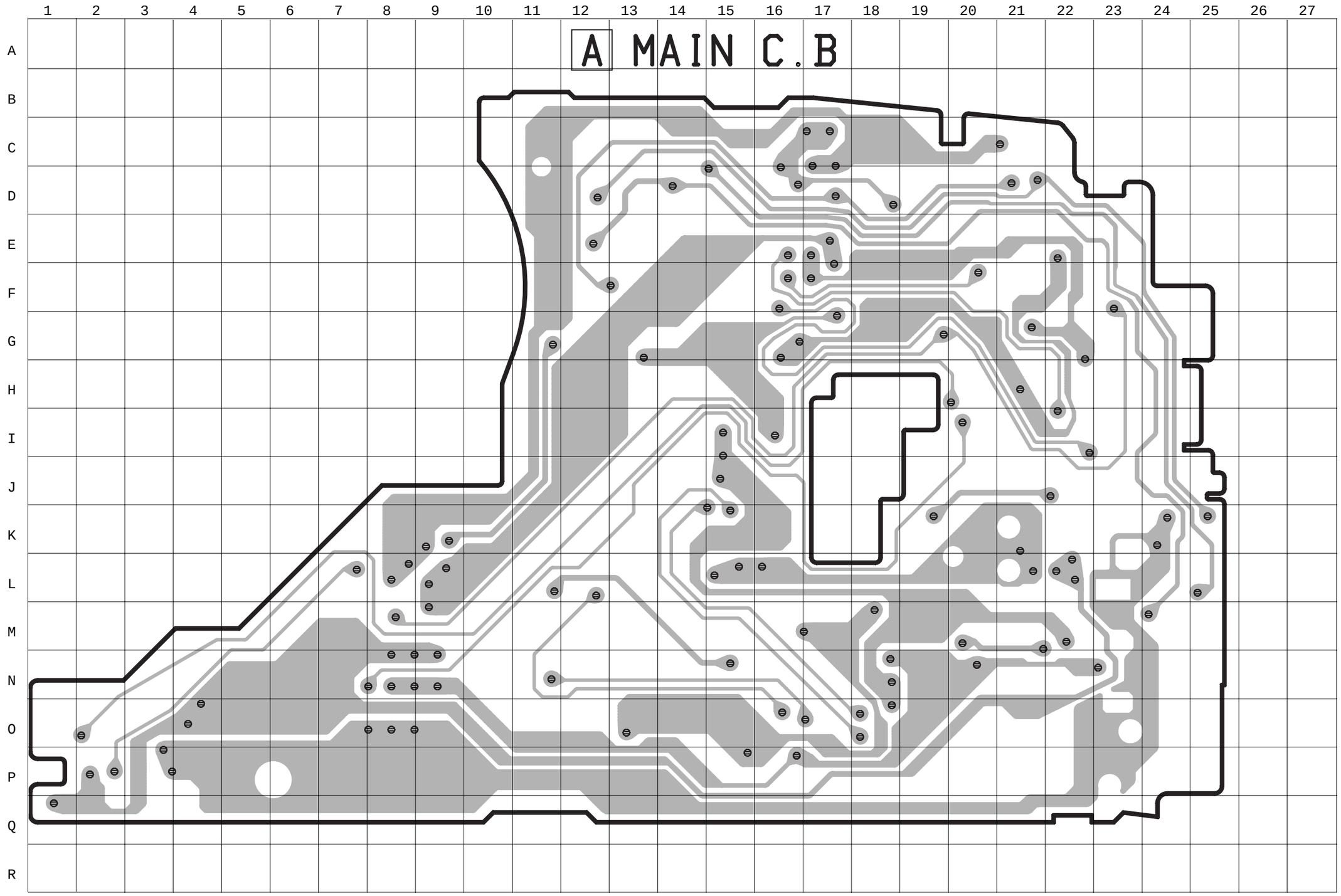
チップ抵抗

Chip resistor

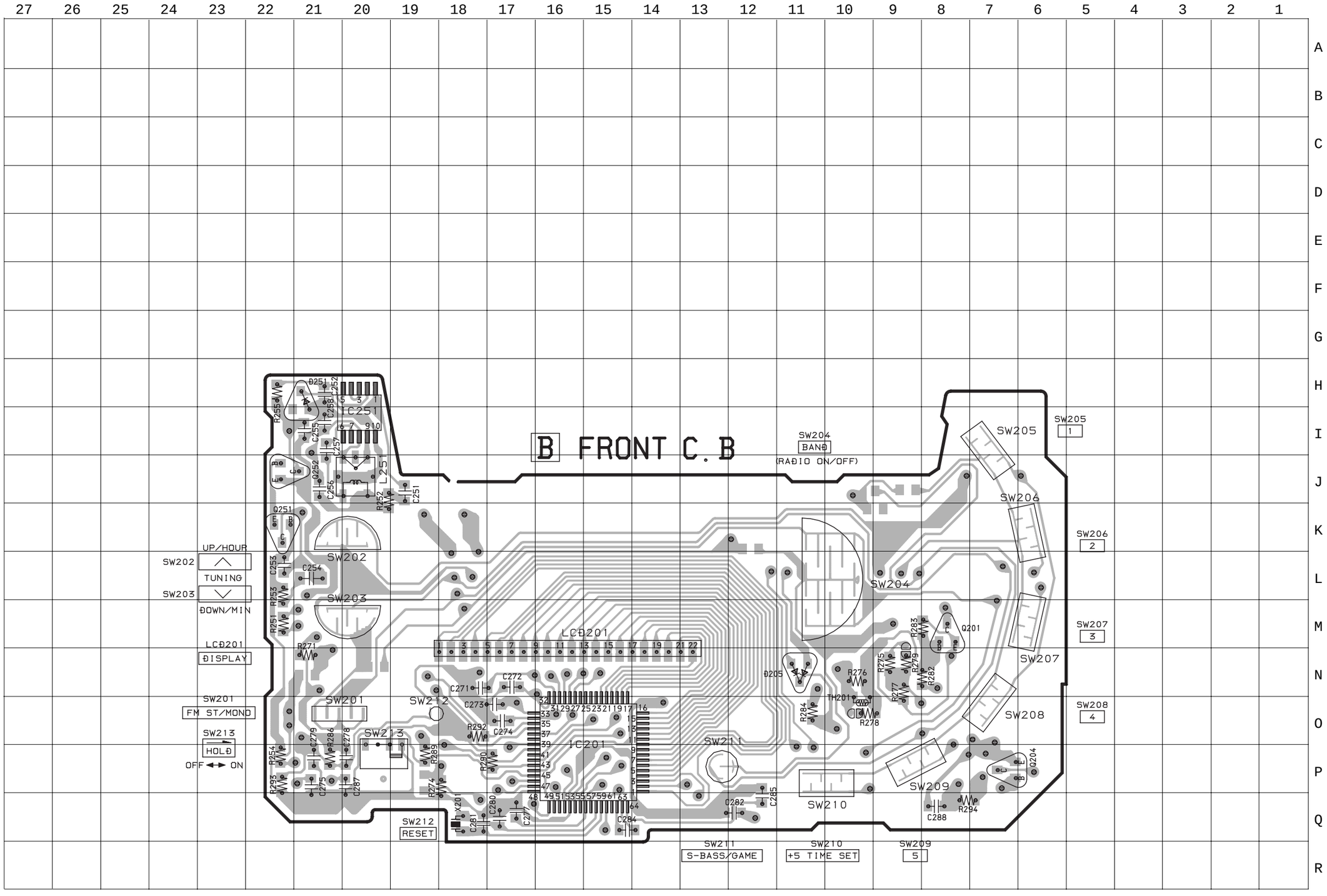
容量 **Wattage**	種類 **Type**	許容誤差 **Tolerance**	記号 **Symbol**	寸法／**Dimensions** 外形／**Form**	**L**	**W**	**t**	抵抗コード :A **Resistor** :A
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128


A MAIN C.B
C FLEX C.B (1/2)
VR1
VOLUME
MIN
MAX
SW1
(PLAY SW)
L101
(BAR ANT)
<RED>
<PINK>
J2
DC 3V
YH ONLY
J1
PHONES
J2 YH ONLY
EXCEPT YH
YU,YL ONLY
YZ,YH ONLY
EXCEPT YZ
YZ ONLY
BPF101
CF101
CF102
CF103
L105
L103
IC101
IC1
HEAD AZIMUTH ADJ
<SHLD>
<RED>
<WHT>
PH
TO B FRONT C.B
M1
(MOTOR)
<BLK>
<RED>
TP2
(VT)
BATTERY R6×2 (DC 3V)

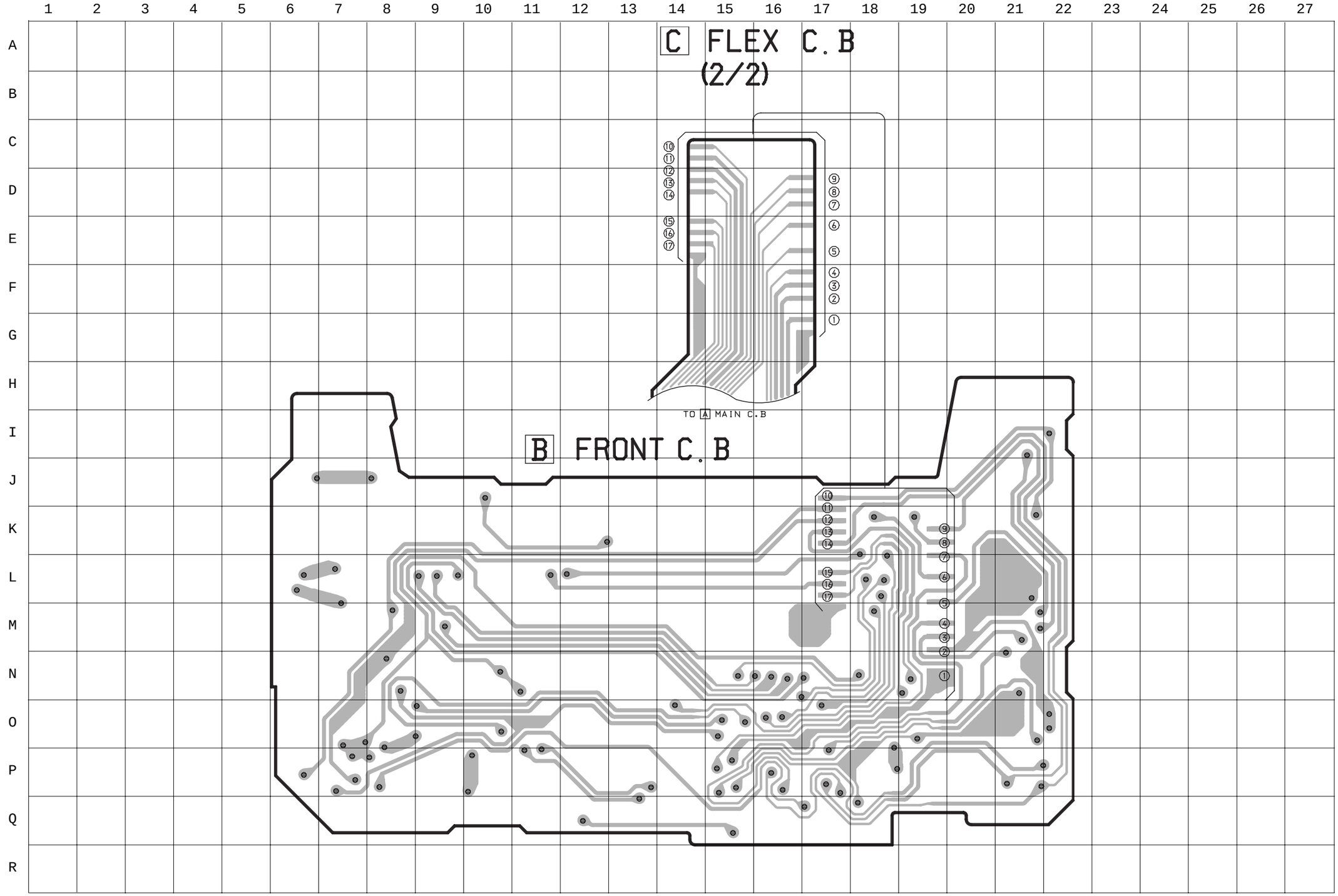
WIRING - 1 (MAIN)



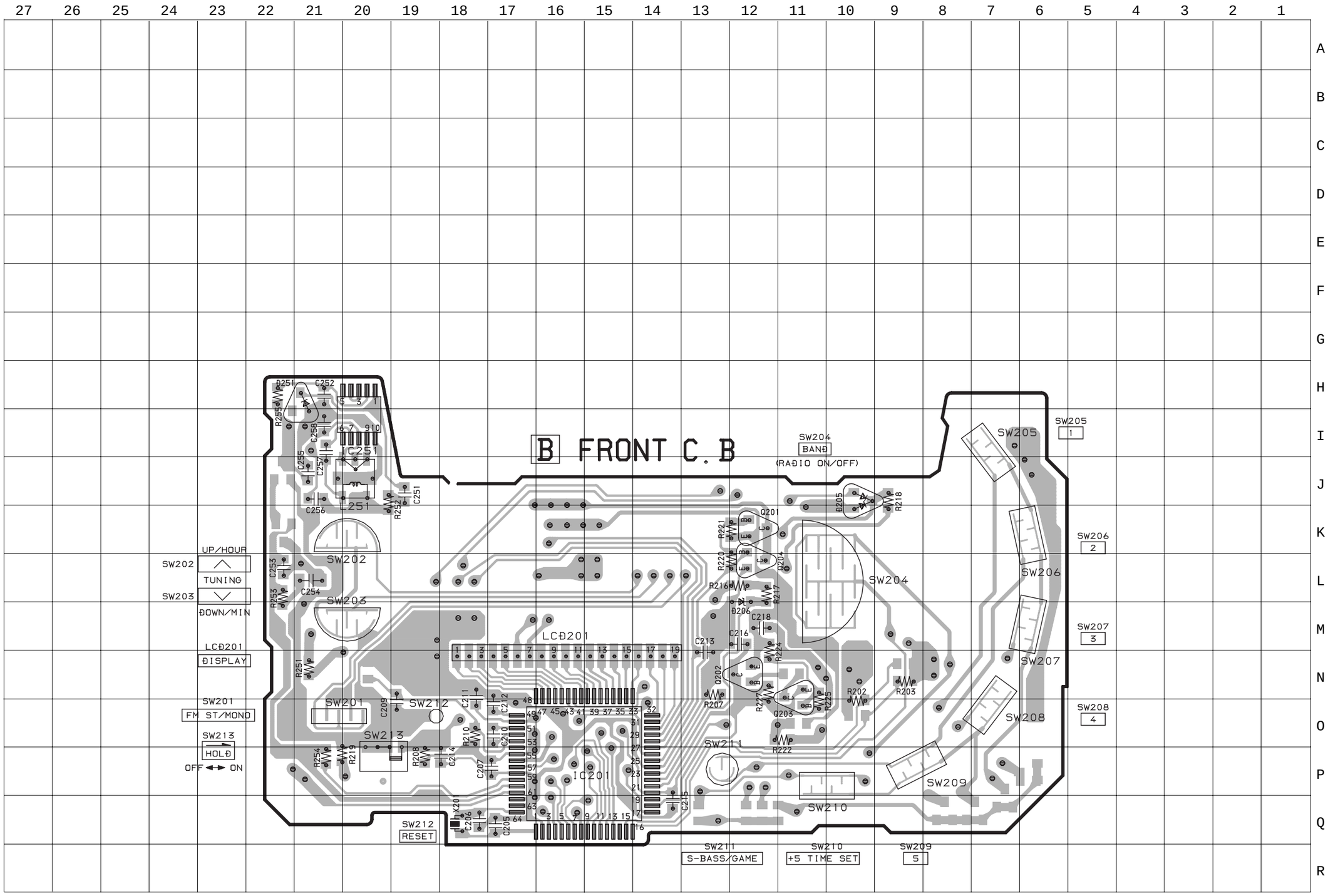
WIRING - 2 (FRONT: 1/2) <YU,YL>

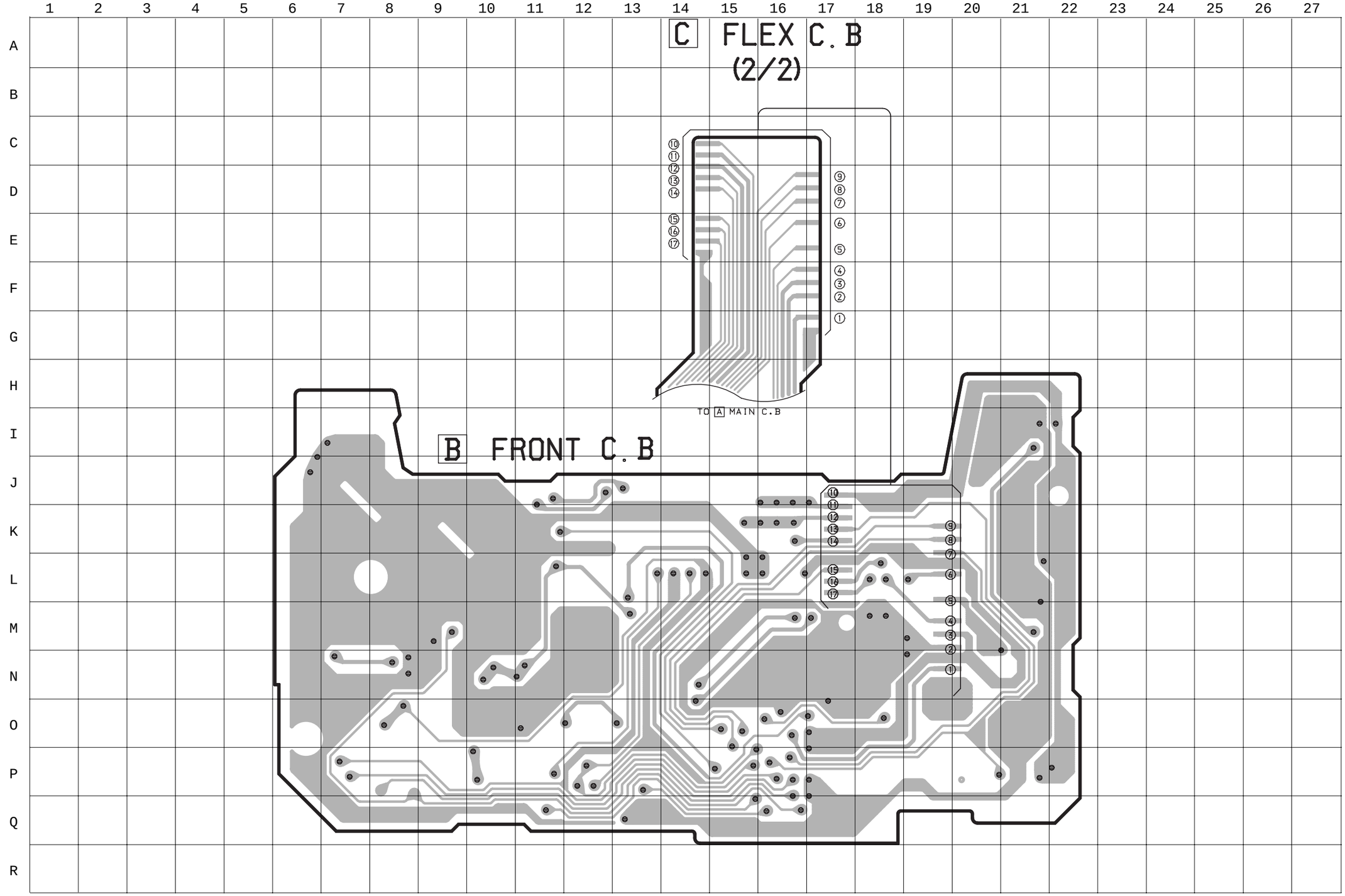


WIRING - 2 (FRONT: 1/2) <YU,YL>

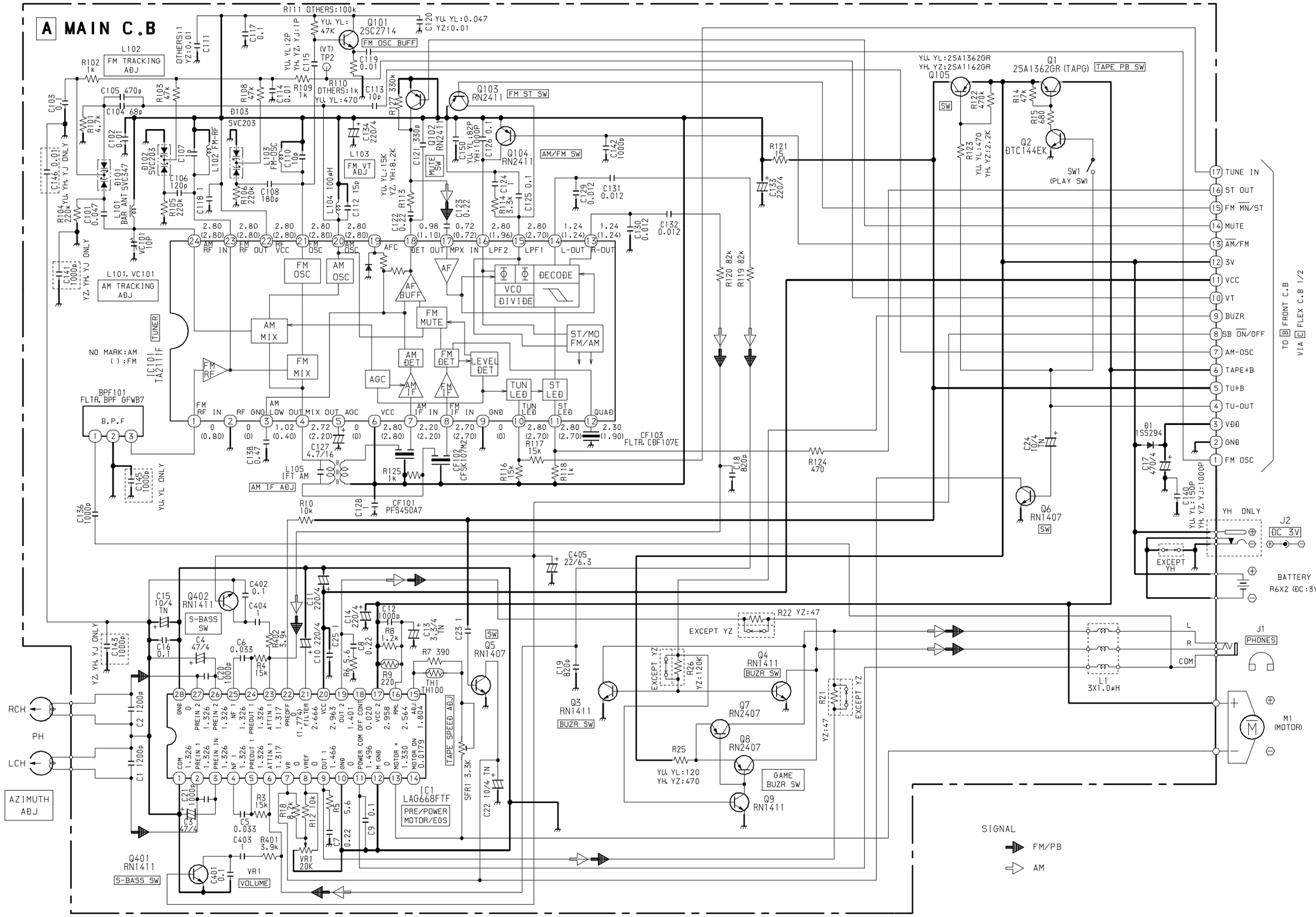


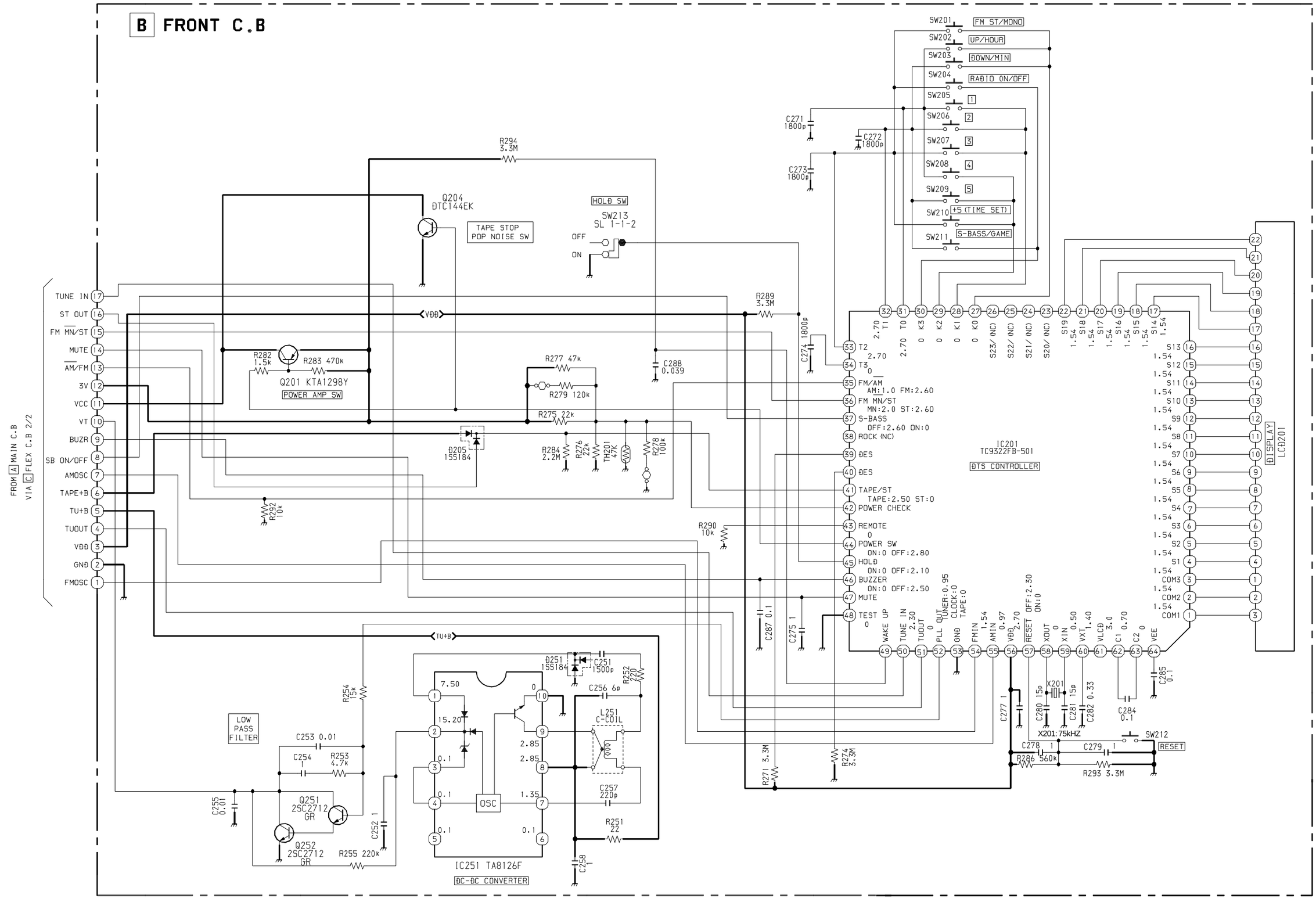
WIRING - 3 (FRONT: 2/2) <YH,YZ,YJ>




C FLEX C.B
(2/2)
TO A MAIN C.B
B FRONT C.B

SCHEMATIC DIAGRAM - 1 (MAIN)





B-ZHR-12CTRL1-RND.SEBCT

B FRONT C.B

FROM A MAIN C.B
VIA C FLEX C.B 2/2

TUNE IN 17
ST OUT 16
FM MN/ST 15
MUTE 14
AM/FM 13
3V 12
VCC 11
VT 10
BUZZ 9
SB 8
AMOSC 7
TAPE+B 6
TU+B 5
TUOUT 4
VDD 3
GND 2
FMOSC 1

SW201 FM ST/MONO
SW202 UP/HOUR
SW203 DOWN/MIN
SW204 RADIO ON/OFF
SW205 1
SW206 2
SW207 3
SW208 4
SW209 5
SW210 +5 (TIME SET)
SW211 S-BASS/GAME

Q201 KTA1298Y POWER AMP SW
R220 1.5k
R221 330k
R219 10k
D205 1SS184
TAPE STOP POP NOISE SW
Q204 DTC144EK
R218 220k
R222 10k

X201 75KHz
C205 8p
C206 8p
RESET SW212
C209 0.01
R210 3.3M
C207 1
C210 0.1
C211 0.22
C212 0.1
D206 UDZ2.0B
R217 560k F
R216 680k F

IC201
LC72343G-9482
DTS CONTROLLER

64	1.30	XIN	
63	0	TEST1	
62	0	GND	
61		VT	
60		LPF OUT	
59		PLL OUT	
58		GND	
57		AMIN	
56	0	FMIN	
55	0	VDD	
54	0	HCTR	
53	2.111	RESET	
52	0.502	BBR1	
51	1.986	BBR2	
50	3.021	BBR3	
49	1.525	BBR4	
1		XOUT	1.38
2		TEST2	0
3		PA3	0
4		PA2	0
5		PA1	0
6		PA0	0
7		PB3	0
8		PB2	2.728
9		PB1	2.728
10		PB0	2.728
11		FM/AM	0
12		FM ST/MN	0
13		S-BASS	2.710
14		NC	2.728
15		DES	0
16		DES	2.106
17		TAPE/ST	2.574
18		POWER CHECK1	2.981
19		NC	0
20		BUZZER	0
21		POWER CHECK2	2.981
22		POWER CHECK3	0.650
23		REMOTE	0
24		GND	0
25		POWER SW	0.168
26		HOLD	2.109
27		MUTE	2.728
28		TU OUT	2.723
29		TUNE IN	0
30		SI5	1.505
31		SI4	1.505
32		SI3	1.505
33		SI2	1.505
34		SI1	1.505
35		SI0	1.505
36		SI9	1.505
37		SI8	1.505
38		SI7	1.505
39		SI6	1.505
40		SI5	1.505
41		SI4	1.505
42		SI3	1.505
43		SI2	1.505
44		SI1	1.505
45		COM4	1.505
46		COM3	1.518
47		COM2	1.518
48		COM1	1.518

DISPLAY
LCD201
21
22
20

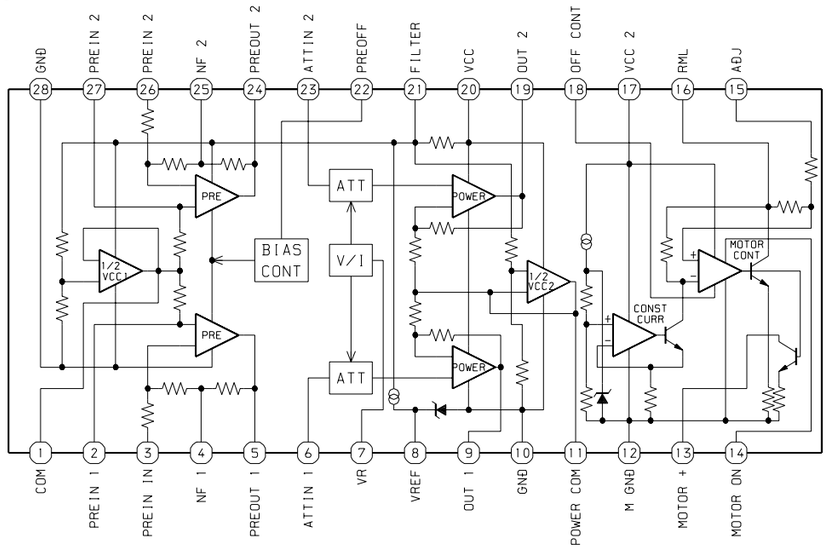
C215 2200p
R207 1k
C213 1
R202 3.3M
R203 3.3M
R208 3.3M
C214 1000p
SW213 HOLD SW
OFF
ON
R224 3.3M
C218 1
R225 1M
Q202 RN2411
MEMORY BACK-UP CIRCUIT
Q203 2SC2712GR
R227 220k
C216 1

TU+B
C253 0.01
C254 1
R253 4.7k
R254 15k
C255 0.01
C252 1
R255 220k
D251 1SS184
C251 1500p
R252 220
C256 6p
L251 C-COIL
C257 220p
R251 22
C258 1
OSC
7.50
15.20
0.1
0.1
0.1
0
2.85
2.85
1.35
0.1

IC251 TA8126F
DC-DC CONVERTER

IC BLOCK DIAGRAM

IC, LAG668FTF



IC DESCRIPTION

IC, TC9322FB-501

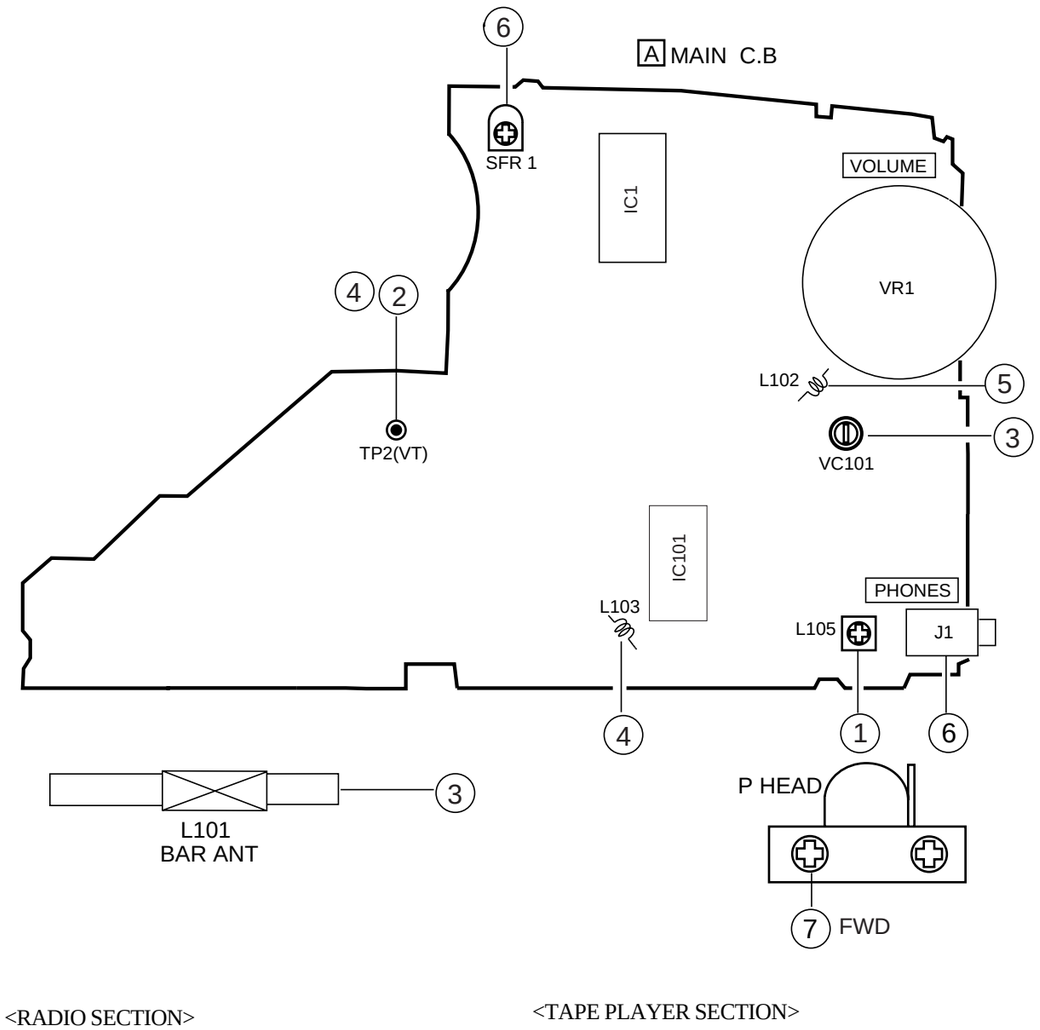
Pin No.	Pin Name	I/O	Description
1	COM 1	O	LCD commn output 1.
2	COM 2	O	LCD commn output 2.
3	COM 3	O	LCD commn output 3.
4	S1	O	LCD segment output.
5	S2	O	LCD segment output.
6	S3	O	LCD segment output.
7	S4	O	LCD segment output.
8	S5	O	LCD segment output.
9	S6	O	LCD segment output.
10	S7	O	LCD segment output.
11	S8	O	LCD segment output.
12	S9	O	LCD segment output.
13	S10	O	LCD segment output.
14	S11	O	LCD segment output.
15	S12	O	LCD segment output.
16	S13	O	LCD segment output.
17	S14	O	LCD segment output.
18	S15	O	LCD segment output.
19	S16	O	LCD segment output.
20	S17	O	LCD segment output.
21	S18	O	LCD segment output.
22	S19	O	LCD segment output.
23	S20 (NC)	O	LCD segment output. (Not connected)
24	S21 (NC)	O	LCD segment output. (Not connected)

Pin No.	Pin Name	I/O	Description
25	S22 (NC)	O	LCD segment output. (Not connected)
26	S23 (NC)	O	LCD segment output. (Not connected)
27	K0	I	Key matrix input.
28	K1	I	Key matrix input.
29	K2	I	Key matrix input.
30	K3	I	Key matrix input.
31	T0	O	Key return timing output.
32	T1	O	Key return timing output.
33	T2	O	Key return timing output.
34	T3	O	Key return timing output.
35	FM / $\overline{\text{AM}}$	O	'H' : FM out, 'L' : AM out.
36	FM $\overline{\text{MN}}$ / ST	O	'H' : FM Stereo out, 'L' : FM Mono out.
37	S-BASS	O	S-BASS switching output. 'H': OFF, 'L' :ON.
38	ROCK	-	Not connected.
39	DES	I	These two input ports determine the destination.
40	DES	I	
41	TAPE / ST	I	In Clock mode: 'H' = LCD display TAPE. 'L' : = LCD display TIME. In FM Stereo mode : 'H' = FM ST indicator will Flash. 'L' = FM ST indicator no Flash.
42	POWER CHECK	I	A / D in for power supply voltage level.
43	REMOTE	I	A / D in for remote controller.
44	POWER SW	O	'H' : Power Off, 'L' : Power On.
45	HOLD	I	'H' : Hold Off, 'L' :Hold On.
46	BUZZER	O	Buzzer output.
47	MUTE	O	Mute output..
48	TEST	-	Connected to ground.
49	WAKE UP	I	Wake up the system from Memory back-up mode.
50	TUNE IN	I	'L' : LCD display 'TUNED'.
51	TU OUT	O	When tuner on, 'L' level is output.
52	PLL OUT	O	Phase comparison output.
53	GND	-	Ground terminal.
54	FMIN	I	FM oscillator signal input.
55	AMIN	I	AM oscillator signal input.
56	VDD	-	Supply voltage terminal.
57	$\overline{\text{RESET}}$	I	System reset input.
58	XOUT	-	Crystal oscillator pin.
59	XIN	-	Crystal oscillator pin.
60	VXT	-	Power supply for crystal oscillator.
61	VLCD	-	Reference voltage for LCD driver.
62	C1	-	Voltage doubler boosting.
63	C2	-	
64	VEE	-	Connected to ground.

IC,LC72343G-9482

Pin No.	Pin Name	I/O	Description
1	XOUT	-	Crystal oscillator pin.
2	TEST2	-	Connected to ground.
3	PA3	I	Key matrix input.
4	PA2	I	Key matrix input.
5	PA1	I	Key matrix input.
6	PA0	I	Key matrix input.
7	PB3	O	Key return timing output.
8	PB2	O	Key return timing output.
9	PB1	O	Key return timing output.
10	PB0	O	Key return timing output.
11	FM / $\overline{\text{AM}}$	O	'H' : FM out, 'L' : AM out.
12	FM ST / $\overline{\text{MN}}$	O	'H' : FM Stereo out, 'L' : FM Mono out.
13	S-BASS	O	S-BASS switching output. 'H' : OFF, 'L': ON.
14	NC	-	Not connected.
15	DES	I	These two input ports determine the destination.
16	DES	I	
17	TAPE / ST	I	In Clock mode: 'H' = LCD display TAPE. 'L' = LCD display TIME. In FM Stereo mode : 'H' = FM ST indicator will Flash. 'L' = FM ST indicator no Flash.
18	POWER CHECK 1	I	Power check input port.
19	NC	-	Not connected.
20	BUZZER	O	Buzzer output.
21	POWER CHECK 2	I	Power check input port.
22	POWER CHECK 3	I	Constant 0.7V ref voltage for power check function.
23	REMOTE	I	A / D in for remote controller.
24	GND	-	Ground terminal.
25	POWER SW	O	'H' : Power Off, 'L' : Power On.
26	HOLD	I	'H' : Hold Off, 'L' : Hold On.
27	MUTE	O	'H' : Mute Off, 'L' : Mute On.
28	TU OUT	O	'H' : Tuner Off, 'L' : Tuner On.
29	TUNE IN	I	'L' : LCD displays 'TUNED'.
30	S15	O	LCD segment output.
31	S14	O	LCD segment output.
32	S13	O	LCD segment output.
33	S12	O	LCD segment output.
34	S11	O	LCD segment output.
35	S10	O	LCD segment output
36	S9	O	LCD segment output
37	S8	O	LCD segment output
38	S7	O	LCD segment output
39	S6	O	LCD segment output
40	S5	O	LCD segment output

Pin No.	Pin Name	I/O	Description
41	S4	O	LCD segment output.
42	S3	O	LCD segment output.
43	S2	O	LCD segment output.
44	S1	O	LCD segment output.
45	COM4	O	LCD commn output 4.
46	COM3	O	LCD commn output 3.
47	COM2	O	LCD commn output 2.
48	COM1	O	LCD commn output 1.
49	DBR4	-	LCD reference voltage.
50	DBR3	-	LCD reference voltage.
51	DBR2	-	Voltage doubler boosting.
52	DBR1	-	Voltage doubler boosting.
53	$\overline{\text{RESET}}$	I	System reset input.
54	HCTR	-	Not connected.
55	VDD	-	Supply voltage terminal.
56	FMIN	I	FM oscillator signal input.
57	AMIN	I	AM oscillator signal input.
58	GND	-	Ground terminal.
59	PLL OUT	O	Phase comparison output.
60	LPF OUT	I	LPF output.
61	VT	O	VT input.
62	GND	-	Connected to ground.
63	TEST 1	-	Connected to ground.
64	XIN	-	Crystal oscillator pin.



<RADIO SECTION>

1. AM IF Adjustment
   L105 ..... 450kHz

2. AM VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to AM 530kHz and check that the test point is more than 0.8V. Then set to AM 1710 kHz and check that the test point is less than 8.7V.

3. AM Tracking Adjustment
   L101 ..... 630kHz
   VC101 ..... 1440kHz

4. FM VT Adjustment
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L103
   Method : Set to FM 76MHz and adjust L103 so that the test point becomes 1.0V ± 0.1V. Then set to FM 108.1MHz and check that the test point is less than 8.5V.

5. FM Tracking Adjustment
   L102 ..... 76MHz

<TAPE PLAYER SECTION>

6. Tape Speed Adjustment
   Settings : • Test tape : TTA–100 (TAPE CENTRE)
   • Test point : Phones Jack (J1)
   • Adjustment location : SFR1
   • Tape/radio : TAPE
   • S-BASS : OFF
   • Volume : NON-CLIP(MAX -10dB)
   Method : Play back the test tape and adjust SFR1 for 3000 ± 10Hz. Then confirm WOW is less than 0.50%.

7. Azimuth Adjustment
   Settings : • Test tape : TTA–330/TTA–420
   • Test point : Phones Jack (J1)
   • S-BASS : OFF
   • Tape/radio : TAPE
   • Volume : MAX
   • Adjustment location : Head azimuth adjustment screw
   Method : Play back the 8KHz signal of the test tape and adjust screw so that the output becomes maximum.

PRACTICAL SERVICE FIGURE

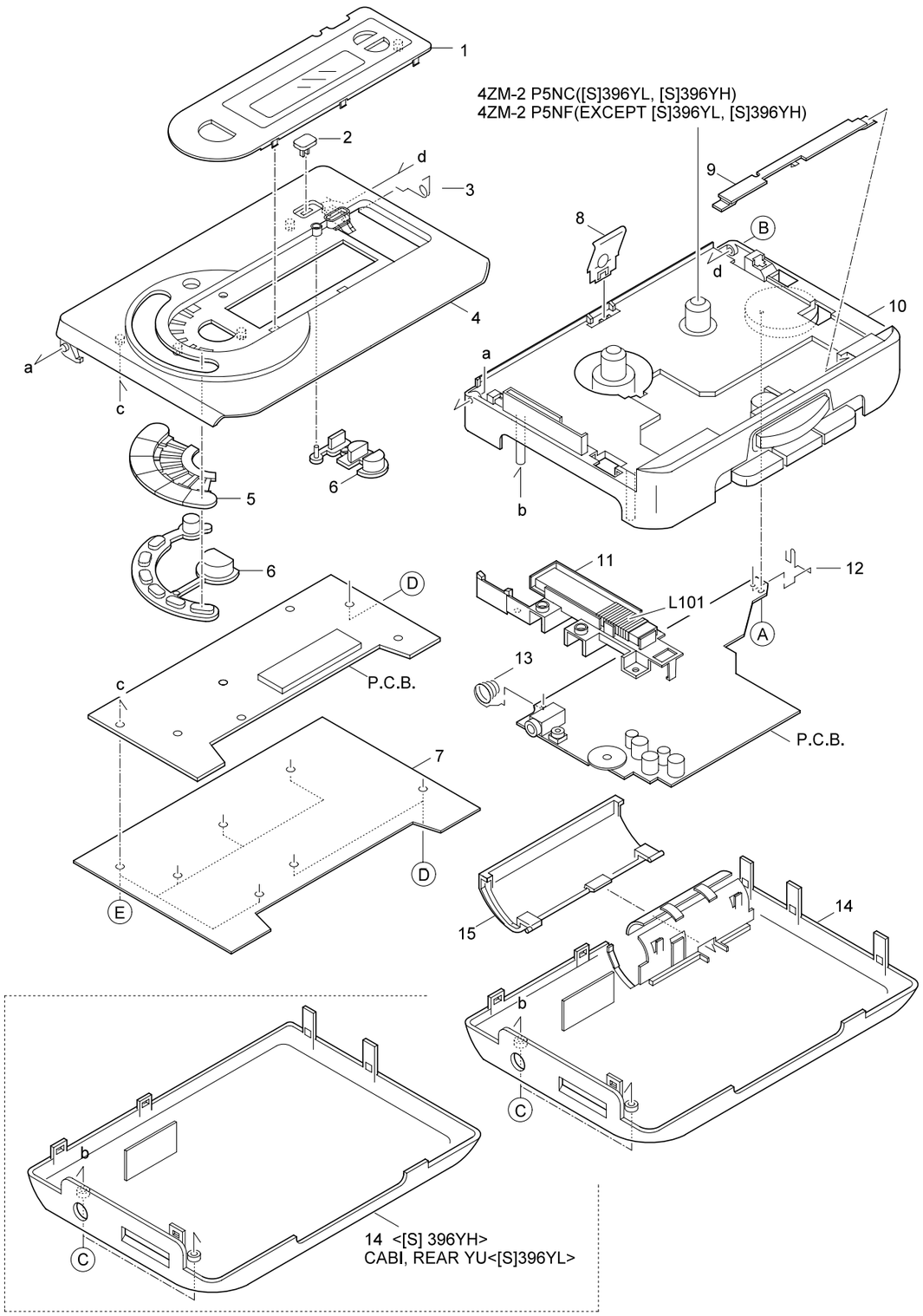
<TUNER SECTION>

Sensitivity : (IHF, THD 3%)	FM	Less than 20dB [at 76MHz (YU,YL)]
		Less than 20dB [at 87.5MHz (YH,YJ,YZ)]
		Less than 20dB [at 90MHz (YU,YL)]
		Less than 20dB [at 98.1MHz (YH,YJ,YZ)]
		Less than 20dB [at 108.0MHz]
Sensitivity : (S/N 10dB)	AM	Less than 59dB [at 630KHz]
		Less than 56dB [at 1000KHz (YU,YL)]
		Less than 56dB [at 999KHz (YH,YJ)]
		Less than 59dB [at 999KHz (YZ)]
		Less than 56dB [at 1440KHz (YU,YL,YH,YJ)]
		Less than 59dB [at 1440KHz (YZ)]
S/N Ratio	FM	More than 43dB [at 76MHz (YU,YL)]
		More than 43dB [at 87.5MHz (YH,YJ,YZ)]
		More than 43dB [at 90MHz (YU,YL)]
		More than 43dB [at 98.1MHz (YH,YJ,YZ)]
		More than 43dB [at 108MHz]
	AM	More than 25dB [at 630kHz (YU,YL,YH,YJ)]
		More than 24dB [at 630kHz (YZ)]
		More than 27dB [at 1000KHz (YU,YL)]
		More than 27dB [at 999KHz (YH,YJ)]
		More than 25dB [at 999KHz (YZ)]
		More than 27dB [at 1440KHz (YU,YL,YH,YJ)]
		More than 25dB [at 1440KHz (YZ)]
Intermediate frequency :	FM	10.7MHz ± 0.1MHz
	AM	450kHz ± 3KHz
FM stereo separation :		More than 16dB [at 90MHz (YU,YL)]
		More than 16dB [at 98.1MHz (YH,YJ,YZ)]

<TAPE SECTION>

Tape speed :	3000Hz ± 60Hz
Wow & flutter :	Less than 0.50% (RMS)
Take-up torque :	35 ~ 50g-cm (FWD)
F.F torque :	More than 36g-cm
Rew torque :	60 ~ 170g-cm
Back tension :	1.5 ~ 4.5g-cm (FWD)
S/N ratio :	More than 43dB (YU,YL,YH,YJ)
	More than 40dB (YZ)
Distortion :	Less than 3.0%
Noise level :	Less than 7.0mV (YU,YL,YH,YJ)
	Less than 4.0mV (YZ)
	(Vol MAX, without tape)
	Less than 0.3mV (YU,YL,YH,YJ)
	Less than 0.2mV (YZ)
	(Vol MIN, without tape)
Frequency response :	63Hz + 1/-5dB ~ 8kHz ± 4dB (NORMAL)
Test tape :	TTA – 100
	TTA – 210
	TTA – 320 (NORM)

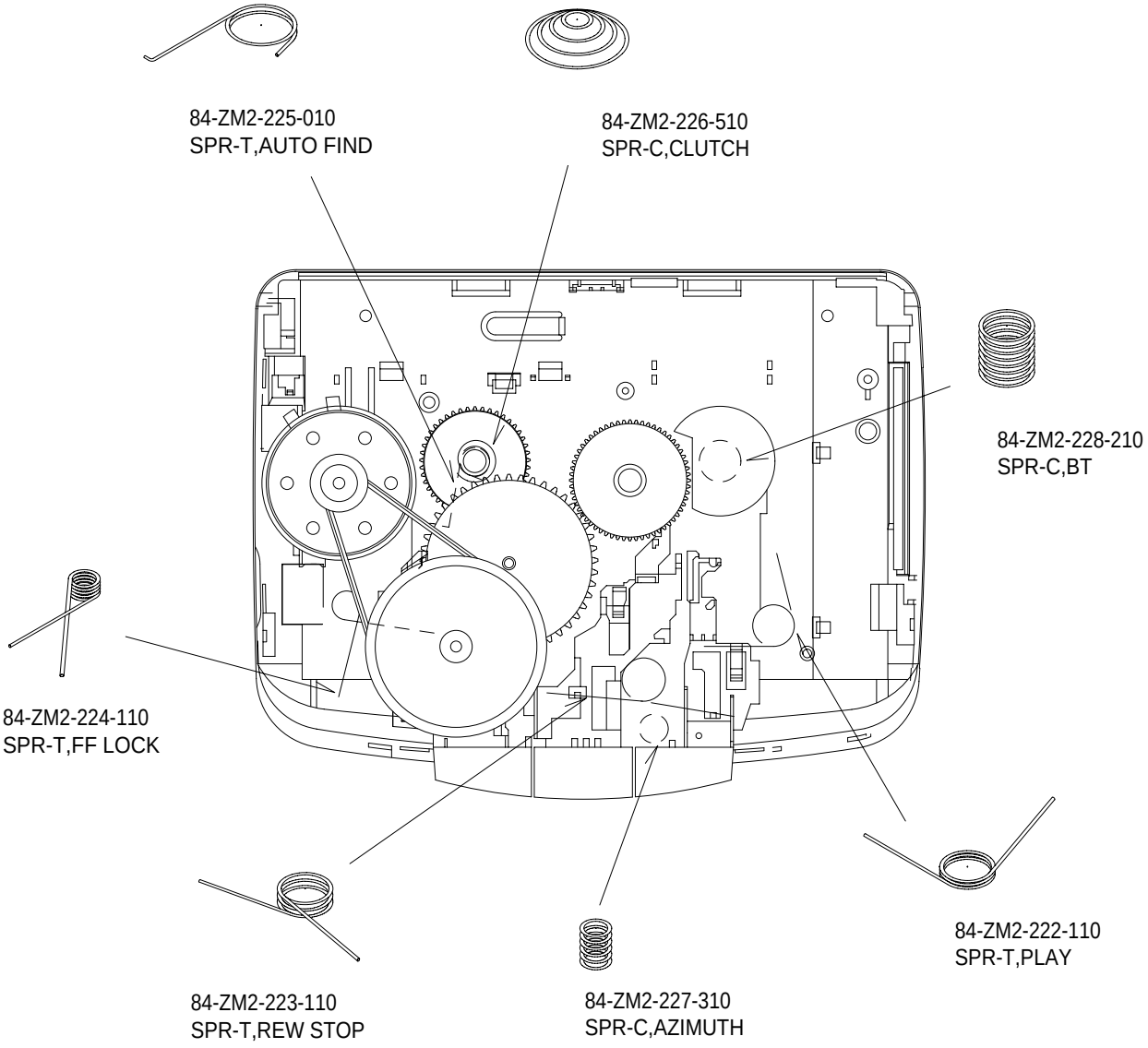
MECHANICAL EXPLODED VIEW 1/1



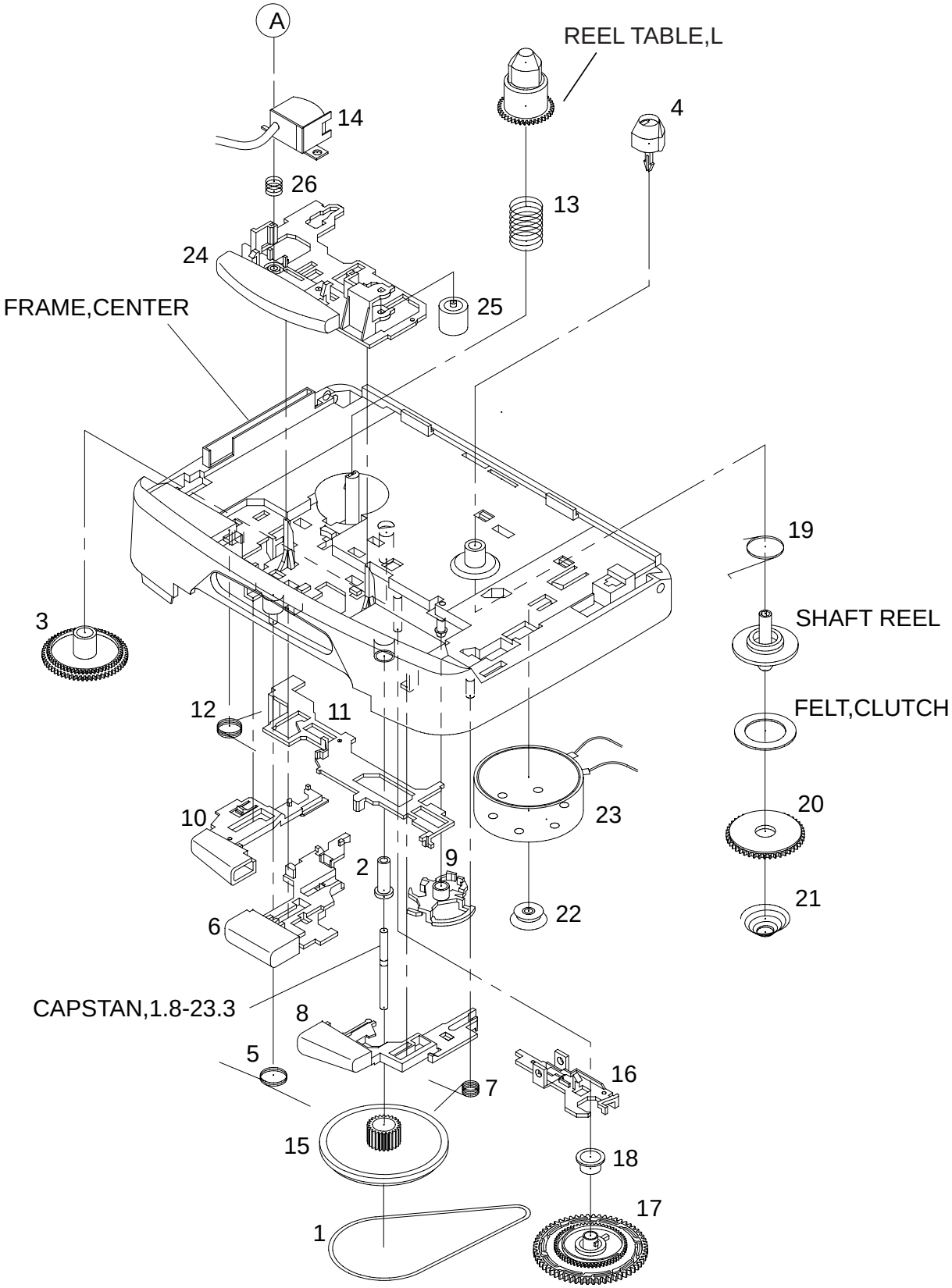
MECHANICAL PARTS LIST 1/1

REF.NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-HRC-005-010		WINDOW,LCD
2	8Z-HRC-008-010		KNOB,SL HOLD<EXCEPT [L]394YL,[L]394YZ>
2	8Z-HRC-020-010		KNOB,SL HOLD BLUE<[L]394YL,[L]394YZ>
3	86-HRM-205-010		SPR-T,CLICK
4	8Z-HRC-012-010		LID,CASS 394<[S]394YU>
4	8Z-HRC-017-010		LID,CASS 394 EGS<[S]394YZ>
4	8Z-HRC-001-010		LID,CASS 396<[S]396YL1,[S]396YH,[S]396YLB,[S]396YL,396YJ>
4	8Z-HRC-018-010		LID,CASS 396 EGS<[S]396YZ>
4	8Z-HRC-013-010		LID,CASS BLUE<[L]394YL>
4	8Z-HRC-019-010		LID,CASS BLUE EGS<[L]394YZ>
4	8Z-HRC-038-010		LID,CASS <399YL>
5	8Z-HRC-040-010		CAP, FUNCTION SIL<[S]394YZ>
5	8Z-HRC-010-010		CAP, FUNCTION<[S]394YU,[L]394YL,[S]394YZ1B,[L]394YZ1B,[L]394YZ>
5	8Z-HRC-006-010		CAP, FUNCTION BLUE<[S]396YL1,[S]396YH,[S]396YLB,[S]396YL,[S]396YZ,396YJ,399YL>
6	8Z-HRC-007-010		BTN,FUNCTION
7	8Z-HRC-201-010		COVER, PCB
8	81-HK9-208-210		SPR-P,CASS A
9	8Z-HRC-204-010		PLATE,HEAD<EXCEPT [L]394YL,[L]394YZ>
9	8Z-HRC-207-010		PLATE,HEAD BLUE<[L]394YL,[L]394YZ>
10	8Z-HRC-002-010		FRAME,CENTER<EXCEPT [L]394YL,[L]394YZ>
10	8Z-HRC-014-010		FRAME,CENTER BLUE<[L]394YL,[L]394YZ>
11	8Z-HRC-202-010		HLDR,ANT
12	8Z-HRC-205-010		BAT-CONTACT,(+)
13	8Z-HRC-206-110		BAT-CONTACT,(-)
14	8Z-HRC-003-110		CABI,REAR<[S]396YH>
14	8Z-HRC-035-110		CABI,REAR ASSY BLUE<[L]394YL>
14	8Z-HRC-037-110		CABI,REAR ASSY BLUE<[L]394YZ>
14	8Z-HRC-036-110		CABI,REAR ASSY YU<[S]394YU,[S]396YL1,[S]396YLB,399YL>
14	8Z-HRC-034-110		CABI,REAR ASSY YZ<[S]394YZ1B,[S]394YZ,[S]396YZ>
15	8Z-HRC-004-010		LID,BATT<[S]396YH,[S]396YL>
A	87-264-525-310		SCREW, V+1.7-2.5
B	87-067-756-010		SCREW HINGE 1.4-4
C	87-B10-078-010		VT2+1.7-10(3) BLK
D	87-B10-178-010		VT2+1.4-4.5 W/O SLOT
E	87-078-052-010		S-SCREW+1.4-3.5HL(B)

SPRING APPLICATION POSITION



TAPE MECHANIISM EXPLODED VIEW 1/1



TAPE MECHANISM PARTS LIST 1/1

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	84-ZM2-244-010		BELT,MAIN Y
2	84-ZM2-220-110		BRG,P
3	84-ZM2-211-010		GEAR,CONNECT
4	84-ZM2-216-210		REEL TABLE,R
5	84-ZM2-223-110		SPR-T,REW STOP
6	84-ZM2-054-010		LEVER,REW THIN
7	84-ZM2-224-110		SPR-T,FF LOCK
8	84-ZM2-053-010		LEVER,FF THIN
9	84-ZM2-207-310		LEVER,AUTO
10	84-ZM2-055-010		LEVER,STOP THIN
11	84-ZM2-206-410		LEVER,LOCK
12	84-ZM2-222-110		SPR-T,PLAY
13	84-ZM2-228-210		SPR-C,BT
14	87-A90-272-010		HEAD,PH MS25P ETH
15	84-ZM2-221-110		FLY-WHL,P2
16	84-ZM2-208-310		LEVER,SHIFT
17	84-ZM2-210-210		GEAR,AUTO
18	84-ZM2-218-110		CAP,GEAR AUTO
19	84-ZM2-225-010		SPR-T,AUTO FIND
20	84-ZM2-212-010		GEAR,CLUTCH
21	84-ZM2-226-510		SPR-C,CLUTCH
22	84-ZM2-219-010		PULLEY,MOTOR
23	87-045-385-110		MOT,BCY3B
24	84-ZM2-052-010		LEVER,PLAY THIN
25	84-ZM2-233-110		ROLLER ASSY,PINCH
26	84-ZM2-227-310		SPR-C,AZIMUTH
A	84-ZM2-252-010		S-SCREW,AZI-2-6.4 C

L▶

A4▶

サービス技術ニュース	
番号	連絡内容
G一　　一	
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